

Article details: 2014-0034	
Title	What's in a name? Belgian "life-ending acts without explicit request" from a large-scale death certificate survey revisited
Authors	Kenneth Chambaere PhD, Jan L. Bernheim MD PhD, James Downar MDCM MHSc, Luc Deliens PhD
Reviewer 1	Grace Johnston PhD
Institution	School of Health Administration, Dalhousie University, Halifax, NS
General comments	<p>Authors are to be commended for a very important paper that is well written.</p> <p>Paper would benefit from more direct connection to their 2010 CMAJ paper, specifically:</p> <ol style="list-style-type: none"> <li>1) In last paragraph of Introduction, further develop rationale. Why was there a need for this paper to revisit data from the 66 cases in ref 5 (2010 CMAJ paper)?</li> <li>2) Reconcile Table 1 and first sentence of abstract results re 88% in this new paper with <b>Table 2 (66 cases column and "Reason for decision" rows) in Ref 5 (2010 CMAJ paper)</b></li> <li>3) In Interpretation, clearly state what this new paper adds to the previous paper (Ref 5, 2010 CMAJ paper)</li> <li>4) Optional: In the Introduction, a summary of key findings from the Ref 5 (2010 CMAJ) paper might be worthwhile to include to provide readers with further insight on the sample, e.g. discussed with family, reasons for not discussing with patient, more likely to be older, less <b>likely to be cancer than with patient's request, often shortened by less than a day, short time terminally ill.</b></li> </ol>
Reviewer 2	Dr. Karen Detering
Institution	Austin Health, Respiratory Medicine
General comments	<p>This is an interesting area of research. However on reading your manuscript there are some issues.</p> <p>Major issues: Although this is an area of interesting research I found the paper quite difficult to follow. I will detail more below. I also found myself wondering exactly what your take home message is - is it that LAWER is uncommon, and often "mislabelled", and therefore of no major concern or are you trying to justify it and the ethical significance or are you trying to do both? You do hint at this throughout but I think it needs to be clearer.</p> <p>Introduction: Long and a little difficult to read. I think it would be easier if you divided this up into a few paragraphs with a key point and a bit of discussion in each paragraph.</p> <p>Methods: What is the significance of "Dutch speaking?" I do not understand what you mean by "sampling fractions for strata increased proportionally with this likelihood" What are the 4 strata. You say survey methodology has been described elsewhere but some brief information would be useful. Why not include the 5 page questionnaire or at least describe it briefly? I cannot see anywhere where you describe what "Intensified alleviation of pain and other symptoms" actually means and how this was classified. I think given you are using this as a comparison it needs describing.</p> <p>Results: What is your response rate? What are the characteristics of the responders vs non responders and is there a difference? I don't understand table 1 and its significance, but I suspect if the methods were clearer it may make sense. What do you mean by explicitly and implicitly stated a wish for life ending (? needs clearer explanation in methods)</p> <p>In para regarding table 3 - Why did you decide to combine the 2 groups in the last sentence - why not just state the 29/66 and 23 / 66. I am not sure the combining adds anything as these 2 things are separate concepts.</p> <p>Discussion: This is quite long and confusing. I think again if you think about your main findings and then 3-4 main discussion points and have a paragraph per topic and keep things more succinct it will be easier to follow.</p> <p>Your first sentence finishes with "... challenge the general perception of the practice." What is the general perception of the practice. If you are going to say this it needs further discussion.</p> <p>In paragraph starting with "second.... are you trying to say that even though it may have been the intent to hasten death they probably failed. If yes - does this then mean it is OK? I think you need to be clear about your main point here. You need to be clear about the ethical bits as well. This whole page or so needs to be written much more clearly.</p> <p>In paragraph starting "A third..." not sure again your main point - is it that it is not</p>

	<p>paternalistic or is it that it is ethically OK?</p> <p>Your discussion about Belgian physicians compared to others is also long and difficult to follow. You need to make your main point and then discuss more clearly.</p> <p>Strengths and Limitations: A strength - ? size of study, and response rate (but this needs to be in this paper), and methodology related to anonymity, retrospective, physician recall and interpretation, ? representative sample (we need this info in paper), and also old data - deaths from 2007 - so significance 7 years later??? Also another limitation is the amount of missing data related to OME and this should also be noted in results section. At the moment it is lost in notes at bottom of table 2.</p> <p>Conclusion and recommendation: Too long, not very clear what your main point are. This should be 1-2 brief paragraphs very clearly written. You also state your aim is to neither condone nor justify LAWER, so this should also be in main body of paper.</p> <p>Table 2 - footnotes with references - very hard to read - why not put these into ref in paper. As these are long the info on OME is lost at the bottom.</p> <p>Abstract - Background: Not sure why in the first you have included reference to robust international studies. Otherwise this is fine.</p> <p>STROBE checklist - items 12c, 13, 14b, need to be discussed further in manuscript.</p>
Reviewer 3	Eduardo Bruera
Institution	MD Anderson Cancer Center, Symptom Control & Palliative Care
General comments	<p>This is an interesting survey. I have the following comments:</p> <ol style="list-style-type: none"> <li>1. The "strata" determined from the total number of deaths according to "risk" need to be explained. this could greatly bias the number of LAWER.</li> <li>2. I could not find the response rate. This is a major potential limitation of this study</li> <li>3. The authors need to better explain the table and text for the dose and type of drugs. There were no patient reported outcomes and to my knowledge no review of medical records. Where the MDs asked to review their records? Where they asked what they remembered? If the decision to consider the purpose and appropriateness of the dose opioid/ benzo was based on the MD opinion, some statements are quite incongruent. Why would an MD respond they were doing a LAWER if they also say the type and dose of drugs they used was NOT to obtain LAWER? This looks like a methodological limitation. Unless the authors are able to address this it may be better to just drop the table and all discussion regarding the type and dose of drugs.</li> <li>4. LAWER in most countries is considered 1st degree murder and many MDs have been prosecuted and convicted for such practice. It is understandable that many respondents might not want to make a statement that might incriminate them, no matter how strong the reassurance of the investigators. This limitation needs to be clearly included in Discussion.</li> </ol>
Author response	<p>Reviewers' Comments to Author:</p> <p><b>Reviewer: Grace Johnston</b>, PhD, Professor, Dalhousie University, Halifax, NS, Canada Comments to the Author</p> <p>Authors are to be commended for a very important paper that is well written. Paper would benefit from more direct connection to their 2010 CMAJ paper, specifically:</p> <ol style="list-style-type: none"> <li>1. In last paragraph of Introduction, further develop rationale. Why was there a need for this paper to revisit data from the 66 cases in ref 5 (2010 CMAJ paper)? <b>Response: We have modified one sentence in this paragraph to read: "A previous publication comparing euthanasia and LAWER cases in Belgium identified important differences in terms of decision making and drugs used. LAWER predominantly involved the use of opioids, which are rarely used in euthanasia procedures, and life shortening was often estimated at less than 24 hours by physicians [5]. This raised questions about whether LAWER is truly equivalent to non-voluntary termination of life or whether this is a misperception."</b></li> <li>2. Reconcile Table 1 and first sentence of abstract results re 88% in this new paper with <b>Table 2 (66 cases column and "Reason for decision" rows) in Ref 5 (2010 CMAJ paper)</b> <b>Response: We thank the reviewer for this insightful comment.</b> We analyzed the percentage of cases where the physician gave at least one reason related to present symptoms (ie severe pain, severe other symptoms, expected further suffering). This was 77.3% of cases. We speculate that the difference between the percentages (11 %points), deriving from what we know from other research, stems from continuous sedation until death - palliative sedation - sometimes being performed not for severe physical symptoms but at the request of the patient and/or family because of mental suffering when they do not want (the patient) to experience the dying process consciously. So a few physicians may have sedated the patient, terming it as palliative sedation, for reason of it being the wish of the patient and/or family rather than a last resort option for refractory physical symptoms.</li> </ol>

	<p>3. In Interpretation, clearly state what this new paper adds to the previous paper (Ref 5, 2010 CMAJ paper)</p> <p><b>Response:</b> We have rewritten the start of the “explanation of findings” to clearly state what new information this study provides: “This detailed analysis challenges the perception that LAWER cases are equivalent to non-voluntary termination of life, because many were either according to the patient’s wish to die (albeit not in the form of a legally prescribed formal euthanasia request) or without an apparent life-terminating act. Our present study builds on the findings of previous studies [5,19,20], showing that the medications provided in LAWER were significantly different from those provided in euthanasia and very similar to medications provided in standard palliative care. Also, the terminology used by physicians suggests that their focus was not on hastening death. [...] Finally, the use of stable or slowly increasing doses of opioids no higher than necessary for symptom control makes it highly improbable that death was actually hastened in many cases.”</p> <p>In the first paragraph of the conclusion, we also explicitly state that “This study has added that LAWER should not be equated with non-voluntary termination of life...”</p> <p>4. Optional: In the Introduction, a summary of key findings from the Ref 5 (2010 CMAJ) paper might be worthwhile to include to provide readers with further insight on the sample, e.g. discussed with family, reasons for not discussing with patient, more likely to be older, less likely to be cancer than with patient’s request, often shortened by less than a day, short time terminally ill.</p> <p><b>Response:</b> This would indeed be a useful addition and connects well with the reviewer’s first comment. We have added in the introduction: “LAWER predominantly involved the use of opioids, which are rarely used in euthanasia procedures, and life shortening was often estimated at less than 24 hours by physicians [5].”</p> <p><b>Reviewer: Dr. Karen Detering</b>, Austin Health, Respiratory Medicine, Victoria, Australia</p> <p>Comments to the Author</p> <p>This is an interesting area of research. However on reading your manuscript there are some issues.</p> <p>1. Although this is an area of interesting research I found the paper quite difficult to follow. I will detail more below. I also found myself wondering exactly what your take home message is - is it that LAWER is uncommon, and often “mislabelled”, and therefore of no major concern or are you trying to justify it and the ethical significance or are you trying to do both? You do hint at this throughout but I think it needs to be clearer.</p> <p><b>Response:</b> Generally we are trying to mitigate the perception of LAWER as non-voluntary termination of life (which is a gross oversimplification we are adamantly contesting here) without denying the ethical significance and ambiguities of the practice. This is a delicate balancing act, and we do not want to take an explicit position as to the ethics involved but want to encourage readers to form their own opinion. We have rewritten and rearranged the “explanation of the findings” and “conclusion” sections heavily, which should now be clearer on the descriptive aspect that LAWER is not simply non-voluntary termination of life, and more neutral on the ethical aspects.</p> <p>2. STROBE checklist - items 12c, 13, 14b, need to be discussed further in manuscript.</p> <p><b>Response:</b> We added the necessary information in the text:</p> <ul style="list-style-type: none"> <li>- 12c: in the footnote of table 3 we have added: “Cases with missing values were excluded from the analysis.”</li> <li>- 13: in the first paragraph of the results section we have added “We received response for 3623 of the 6927 sampled deaths. The non-response survey identified 725 cases for which response was impossible (physician was unable to identify the patient or unable to retrieve the patient file, treating physician could not be reached). Response rate was therefore 58.4% (3623/6202). Sixty-six cases of LAWER were identified in the response sample.”</li> <li>- 14b: Tables 1 and 2 have no missing data. In Table 3 we have added “Cases with missing values were excluded from the analysis.” in the footnote. Table 4 incorporates cases with missing data in a separate category “Unspecified doses of opioid and/or benzodiazepines”.</li> </ul> <p>We have made mention of a potential bias from missing data in the limitations section: “Also, we cannot exclude the possibility of poor recall in physicians’ reporting, particularly of drugs and doses where missing data may have biased the results.”</p> <p>Abstract</p>
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	<p>3. Background: Not sure why in the first you have included reference to robust international studies. Otherwise this is fine.</p> <p><b>Response:</b> LAWER has been systematically studied in well-known surveys in different countries using the same questionnaire and similar methodology as in the present study. Otherwise there is little empirical research on the practice. There are other terms and definitions, but we want to handle only the practice as it was defined in our series of surveys.</p> <p>Introduction:</p> <p>4. Long and a little difficult to read. I think it would be easier if you divided this up into a few paragraphs with a key point and a bit of discussion in each paragraph.</p> <p><b>Response:</b> We have shortened where possible and divided the introduction into bite-size paragraphs.</p> <p>Methods:</p> <p>5. What is the significance of "Dutch speaking?"</p> <p><b>Response:</b> We have changed to "the semi-autonomous Northern half of Belgium". The language is not significant.</p> <p>6. I do not understand what you mean by "sampling fractions for strata increased proportionally with this likelihood" What are the 4 strata?</p> <p><b>Response:</b> We have included info on the sampling and stratification: "...with disproportionate stratification into 4 strata based on cause of death and the corresponding likelihood of an end-of-life decision, in order to capture more cases with end-of-life decisions for statistical power: 100% of deaths with euthanasia designated as cause of death on the death certificate (either by ICD-10 code Z41 or in free text) were sampled, 50% of malignancy deaths (ICD-10 code C), 25% of deaths with ICD-10 code E,F,G,J,K or N, and 12.5% of deaths with any other cause of death."</p> <p>The sampling fraction is the percentage of deaths you sample from a certain stratum, eg 50% of all cancer deaths. The higher the likelihood of an end-of-life decision (estimated from previous surveys – a cancer patient has a much higher chance of an end-of-life decision than a car crash victim) the more cases we sampled from that stratum, to obtain large numbers of cases with end-of-life decisions for statistical power.</p> <p>7. You say survey methodology has been described elsewhere but some brief information would be useful.</p> <p><b>Response:</b> We believe we have with the above additions provided the most important information on survey methodology in this paper for readers to understand the data and how it was obtained. We refer to the protocol paper for readers seeking more detailed information (eg the mailing schedule, more detailed mailing procedure) and a thorough discussion of the implications of each major methodological decision. But this would lead us too far to include this in the present paper. We have changed the sentence to: "The survey methodology has been detailed in a protocol paper [18]." (last sentence of "study design" subsection).</p> <p>8. Why not include the 5 page questionnaire or at least describe it briefly? [Ed note: Please include the questionnaire in an Appendix]</p> <p><b>Response:</b> We have included as an appendix the relevant questions in the questionnaire (no backward translation from Dutch).</p> <p>9. I cannot see anywhere where you describe what "Intensified alleviation of pain and other symptoms" actually means and how this was classified. I think given you are using this as a comparison it needs describing.</p> <p><b>Response:</b> "Intensified alleviation of pain and other symptoms is the administration of drugs to intensify pain and/or other symptom treatment, taking into account a potential life-shortening effect." This has been added as a footnote in Table 3. We describe the term as well in the results paragraph of Table 3: "Table 3 compares LAWER with euthanasia and intensified alleviation of pain/symptoms (taking into account possible life shortening)..." The question in the questionnaire relating to this practice is included in the appendix.</p> <p>Results:</p> <p>10. What is your response rate?</p> <p><b>Response:</b> We have included the response rate (58.4%) at the start of the results section.</p>
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See also previous response to reviewer's comment 2.

11. What are the characteristics of the responders vs non responders and is there a difference?

Response: Because strict anonymity was very important, we do not have any information on the characteristics of the physicians so it was impossible to do a non-response analysis for those parameters. In the non-response survey we found that 95% of physicians did not participate due to a lack of time (71%) or because they did not find the study important enough (24%). Both these reasons do not suggest that there is any relevant systematic bias in the response sample.

12. I don't understand table 1 and its significance, but I suspect if the methods were clearer it may make sense.

Response: The significance of Table 1 is to show that in choosing the best fitting term for their LAWER act, physicians almost always use terms that do not imply termination of life, and thus the primary focus of their treatment was on symptom treatment rather than on life ending. This is important information to judge and interpret the thought process of physicians performing LAWER.

13. What do you mean by explicitly and implicitly stated a wish for life ending (? needs clearer explanation in methods)

Response: There are legally formalized requirements for a valid euthanasia request. While in LAWER cases no patients uttered such a request, a number of them did at some point in the final days state such as wish, which of course does not equate to a valid euthanasia request, **but it gives physicians knowledge of their patients' preferences.** To the relevant sentence in the methods section, questionnaire subsection, we have added: **"...whether the patient had at some point expressed a wish for life to be ended (implicitly or even explicitly yet not as an actual formal euthanasia request)..."**

14. In para regarding table 3 - Why did you decide to combine the 2 groups in the last sentence - why not just state the 29/66 and 23/66. I am not sure the combining adds anything as these 2 things are separate concepts.

Response: We combined them to address our research question concerning the equivalence of LAWER and non-voluntary life termination. By definition, non-voluntary life termination requires both a life-terminating act and a lack of a patient request to die. If either criterion is missing, it is not non-voluntary life termination. The blue cells represent cases where at least one of the criteria were missing- in total this accounted for 45/66 cases. We had to combine all of the blue cells to show that all those LAWER cases could not have been non-voluntary termination of life.

Discussion: This is quite long and confusing. I think again if you think about your main findings and then 3-4 main discussion points and have a para per topic and keep things more succinct it will be easier to follow.

Response: We have reduced the subsection from 850 to 474 words. It has also been thoroughly revised following this and other comments, and is now more selective, concise and to-the-point. **See subsection "Explanation of the findings".**

15. Your first sentence finishes with "... challenge the general perception of the practice." What is the general perception of the practice? If you are going to say this it needs further discussion.

Response: **We have changed this sentence to read: "This detailed analysis challenges the perception that LAWER cases are equivalent to non-voluntary termination of life..."**

16. In para starting with "second.... are you trying to say that even though it may have been the intent to hasten death they probably failed. If yes - does this then mean it is OK? I think you need to be clear about your main point here. You need to be clear about the ethical bits as well. This whole page or so needs to be written much more clearly.

Response: As mentioned in the reviewer's comment 1, we have rewritten the entire "Interpretation" section, explaining the ethical ambiguities in the final paragraph of the "Explanation" subsection but trying not to take a position and influence the reader. We have added bits and pieces in the text to clarify further. In our conclusion we write: **"...our findings suggest that physicians might benefit from education on standards of decision-making and the effects of high-dose opioids, in terms of life shortening potential." so that physicians can avoid being in such an ethical conundrum.**

17. In para starting, "A third..." not sure again your main point - is it that it is not paternalistic or is it that it is ethically OK?

	<p>Response: We have developed the explanation further in this section, again trying to <b>just describe the ambiguity without taking a position ourselves</b>: "...amid active debate on the proper balance between respecting autonomy and paternalism in medicine [35], it is not straightforward whether an implicit or explicit wish to end life, supposing it is regarded as a sufficient exertion of autonomy, should be acted upon or met with paternalistic disregard. Obviously such a wish cannot be ascribed the same legal weight as a formal request for euthanasia. But it may give physicians an invaluable indication, <b>in the absence of others, of the patient's preferences at the end of life, and might be attributed considerable ethical weight.</b>"</p> <p>We are trying to address the main research question- is LAWER equivalent to non-voluntary life termination? If the physician was acting on a patient's stated (but not legally valid) wishes, this would seem to rule out the "non-voluntary" label. But this also doesn't mean that it is "OK" because it is different to a formal euthanasia request.</p> <p>18. Your discussion about Belgian physicians compared to others is also long and difficult to follow. You need to make your main point and then discuss more clearly.</p> <p>Response: We have omitted this discussion point for conciseness of the interpretation section, and have used parts of it in a general discussion point on how to reconcile the <b>difference between intention and act</b>: "How can the contradiction between intention and act be resolved? A first explanation might be that many physicians continue to believe that opioids hasten death at virtually any dose and felt that adequate symptom treatment would concomitantly hasten the patient's death (if only by a small amount of time as found in a previous study [5]) [32]. A second explanation relates to the physicians' subjective semantic interpretation of "explicit intention". They may have meant "partial intention" or "hope" - hope that the patient would pass on quickly and comfortably. Previous studies have supported this idea [33,34] and some medical cultures may be more inclined to admitting this than others." (see "Explanation of the findings", 3rd paragraph)</p> <p>19. Strengths and Limitations: A strength - ? Size of study, and response rate (but this needs to be in this paper), and methodology related to anonymity, retrospective, physician recall and interpretation, ? Representative sample (we need this info in paper), and also old data - deaths from 2007 - so significance 7 years later??? Also another limitation is the amount of missing data related to OME and this should also be noted in results section. At the moment it is lost in notes at bottom of table 2.</p> <p>Response: We have expanded the strengths and limitations section, also in compliance <b>with other reviewers' comments, to also mention</b> the possibility of recall bias, bias in posing the question, non-response bias and missing data.</p> <p>The data are indeed 7 years old but all signs from other surveys (including a 2010 Dutch survey: Onwuteaka-Philipsen et al, Lancet 2012, ref 7) suggest that the practice is fairly stable in its characteristics – not necessarily in its incidence.</p> <p>We have also noted the large amount of missing data in the results paragraph of Table 3 (3rd paragraph) on drugs and doses: "... (for doses there was a large amount of missing data)"</p> <p>20. Conclusion and recommendation: Too long, not very clear what your main points are. This should be 1-2 brief paragraphs very clearly written. You also state your aim is to neither condone nor justify LAWER, so this should also be in main body of paper.</p> <p>Response: We have shortened this section considerably to focus on key messages. Particularly the first paragraph has been changed considerably to formulate conclusions <b>for the assisted dying debate and for physicians</b>: "LAWER incidence in Belgium is higher than in other countries [2,4-6,15-17], but it has halved since the legalization of euthanasia [4,6]. Neither its existence nor its incidence can thus be blamed on decriminalization of euthanasia. This study has added that LAWER should not be equated with non-voluntary termination of life in academic discussion and slippery slope debate as the majority of cases in our study do not fit that label: physicians view and perform LAWER as an act of palliative care rather than euthanasia. The reasons why these physicians reported an explicit intention to hasten death are unclear but our findings suggest that physicians might benefit from education on standards of decision-making and the effects of high-dose opioids in terms of life shortening potential. This would contribute crucially to achieving both ethically coherent and clinically effective end-of-life practice."</p> <p>The mention of our aim has been deleted from the conclusion section.</p> <p>Tables and figures:</p> <p>21. Table 2 - footnotes with references - very hard to read - why not put these into ref in paper. As these are long the info on OME is lost at the bottom.</p> <p>Response: We have followed the reviewer's suggestion and put the references in the</p>
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	<p>bibliography as refs 31 and 36-38.</p> <p>Reviewer: Dr. Eduardo Bruera, MD Anderson Cancer Center, Houston, TX Comments to the Author This is an interesting survey. I have the following comments:</p> <p>1. The "strata" determined from the total number of deaths according to "risk" need to be explained. This could greatly bias the number of LAWER. Response: We have included further information on the disproportionate stratification: <b>"...with disproportionate stratification into 4 strata based on cause of death and the corresponding likelihood of an end-of-life decision, in order to capture more cases with end-of-life decisions for statistical power: 100% of deaths with euthanasia designated as cause of death on the death certificate (either by ICD-10 code Z41 or in free text) were sampled, 50% of malignancy deaths (ICD-10 code C), 25% of deaths with ICD-10 code E,F,G,J,K or N, and 12.5% of deaths with any other cause of death."</b> In other reports of the survey the resulting response sample was corrected for this stratification and for non-response, to make the data (including incidence estimates) representative for all deaths. However, in the present paper we elected not to weight the data as we are looking at a small subset of deaths and we simply want to describe the bare LAWER cases in the dataset and do a (case-by-case) evaluation of their equivalence to non-voluntary termination of life. There are arguments for and against leaving the data unweighted, but for the purpose of this paper we feel weighting is not necessary. However, we appreciate that the editors and reviewers might prefer to have weighted results. Therefore we will leave the choice to the editors. We have included a comparative document in our revision submission to show the (lack of) differences between unweighted and weighted analyses for Tables 1-3. The <b>rationale for not weighting the cases is explicitly mentioned in the "statistical analysis" subsection: "For the present analysis we elected not to weight cases for the disproportionate stratification and non-response, as it was our aim to describe the raw cases captured in the survey and not to present them as representative for all deaths with LAWER. Comparison of analyses using unweighted and weighted data yielded no significant differences." There are 66 unweighted cases of LAWER and 65 cases if weighted. As concerns Table 4, using weighted data would severely complicate the table (one would be using decimal numbers instead of integers).</b></p> <p>2. I could not find the response rate. This is a major potential limitation of this study Response: We have added the response rate (58.4%) at the beginning of the results section: <b>"We received response for 3623 of the 6927 sampled deaths. The non-response survey identified 725 cases for which response was impossible (physician was unable to identify the patient or unable to retrieve the patient file, treating physician could not be reached). Response rate was therefore 58.4% (3623/6202)."</b></p> <p>3. The authors need to better explain the table and text for the dose and type of drugs. There were no patient reported outcomes and to my knowledge no review of medical records. Where the MDs asked to review their records? Where they asked what they remembered? If the decision to consider the purpose and appropriateness of the dose opioid/ benzo was based on the MD opinion, some statements are quite incongruent. Why would an MD respond they were doing a LAWER if they also say the type and dose of drugs they used was NOT to obtain LAWER? This looks like a methodological limitation. Unless the authors are able to address this it may be better to just drop the table and all discussion regarding the type and dose of drugs. Response: We have further emphasized in the table that the reported doses of opioids were according to the judgment of the prescribing physician in the original survey that was sent to them in 2007 (collected but not published in our earlier paper or anywhere else). We could not review the charts, since these data are anonymous. Instead, we <b>relied on the physician's own statement of dosing. Recall and desirability bias</b> are possible, as with any survey, but these are acknowledged and are unavoidable when <b>studying this subject. Physicians were urged to consult the patient's medical file as much as possible, and a number of physicians even declined participation because they could no longer consult the medical file.</b> <b>We appreciate the reviewer's confusion about why a physician would classify their actions as LAWER while clearly documenting behavior that would not be considered LAWER. This is PRECISELY the reason for our study. The survey included items that would allow the treating physician to indicate the care provided, and the details of the patient's wishes, as could be ascertained at the time of treatment. Based on this information alone, we can conclude that many LAWER cases were simply not LAWER, and only a few could be considered non-voluntary life termination. We devote an entire paragraph in the "Explanation of the findings" subsection to the contradiction between</b></p>
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	<p>reported intention and drugs and doses used.</p> <p>We feel that it would be incorrect to dismiss this as a methodological limitation, because this finding is perfectly consistent with well-known biases and failings of medical expertise. The fact is that quite a few physicians admit to an intention to hasten death, at the same time reporting that opioid doses were not higher than necessary for symptom control. Those who work in Palliative Care should recognize the widespread misperception (even among physicians) that opioids shorten life even at low doses. Some physicians who provided opioids to control symptoms would feel that they had intentionally hastened death (but that it was justified on the basis of double effect). They would have indicated that this was LAWER on the survey, but we were able to tell otherwise from the other data provided on the same survey. Others might have had a <b>"partial intention" or "hope" that the patient would die, as has been reported in other studies (refs 32 and 33).</b> Again, they would have filled out the survey correctly from their perspective, but we can tell from other information on the same survey that this was not correct.</p> <p>Ultimately, much of the academic world has already put a great deal of faith in the idea that LAWER is common, based on previous work from this and other surveys. It would be disingenuous to accept the first half of the survey at face value, but dismiss the <b>second half of the same survey as being "methodologically flawed"</b>. We feel strongly that this table should remain, because it clearly shows that LAWER and non-voluntary life termination are not the same thing, and it shows where future studies might be able to further improve our understanding of this complex phenomenon.</p> <p>4. LAWER in most countries is considered 1st degree murder and many MDs have been prosecuted and convicted for such practice. It is understandable that many respondents might not want to make a statement that might incriminate them, no matter how strong the reassurance of the investigators. This limitation needs to be clearly included in Discussion.</p> <p><b>Response: We have added the reviewer's concern in the limitations subsection: "Desirability bias in the source data is possible and some physicians may not have reported LAWER in the survey, despite strict anonymity."</b></p>
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